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## Algorithms and complexity concerning the preemptive scheduling of periodic, real-time tasks on one

...  
 SK Baruah, LE Rosier, RR Howell - Real-Time Systems, 1990 - Springer  
 ... One specific area of scheduling theory that has been studied for a number of years  
 involves preemptive scheduling of periodic, real-time task systems with ...  
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## Multiprocessor online scheduling of hard-real-time tasks

ML Dertouzos, AK Mok - Software Engineering, IEEE Transactions on, 1989 - [ieeexplore.ieee.org](#)  
 ... For the uniprocessor case, Liu and Layland [4] obtained a necessary and sufficient  
 condition for scheduling periodic task sets (with preemption allowed). ...  
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## Fast Scheduling of Periodic Tasks on Multiple Resources - [►utexas.edu \(PS\)](#)

SK Baruah, JE Gehrke, CG Plaxton - time - [doi.ieeeecs.org](#)  
 ... yield a polynomial-time algorithm for the periodic scheduling problem.) While the  
 GCD-like tie ... in the binary representation of the relevant task periods. ...  
[Cited by 118](#) - [Related articles](#) - [Web Search](#) - [All 12 versions](#)

## [PDF] ►Contention-free periodic message scheduler medium access control in wireless sensor/actuator ...

TW Carley, MA Ba, R Barua, DB Stewart - IEEE RTSS, 2003 - [ece.umd.edu](#)  
 ... of a and b is denoted  $(\ )$ ,  $\gcd ab$ , and ... This requirement is satisfied by using a  
 periodic task set so ... for the medium through the scheduling algorithm instead ...  
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## Effective Analysis for Engineering Real-Time Fixed Priority Schedulers

A Burns, K Tindell, A Wellings - IEEE TRANSACTIONS ON SOFTWARE ENGINEERING, 1995 - [doi.ieeeecs.org](#)  
 ... A simple way of modelling the processing time used by the scheduler is to treat  
 the scheduler as a periodic task with the highest priority, a period  $T$  tic ...  
[Cited by 116](#) - [Related articles](#) - [Web Search](#) - [BL Direct](#) - [All 10 versions](#)

## Guaranteeing Real-Time Requirements With Resource-Based Calibration of Periodic Processes

R Gerber, S Hong, M Saksena - IEEE TRANSACTIONS ON SOFTWARE ENGINEERING, 1995 - [doi.ieeecomputersociety.org](#)  
 ... However, we have also imposed a task model for which the greatest number of efficient  
 scheduling algorithms are known: simple, periodic dispatching with ...  
[Cited by 136](#) - [Related articles](#) - [Web Search](#) - [BL Direct](#) - [All 11 versions](#)

## Multiprocessor scheduling of periodic tasks in a hard real-time environment

A Khemka, RK Shyamasundar - Parallel Processing Symposium, 1992. Proceedings., Sixth ..., 1992 - [ieeexplore.ieee.org](#)  
 ... is sufficient for feasible scheduling of a set of periodic tasks on  $n$  processors  
 remains open. Let the time slice of a task  $r_i$  be  $T * C_i/D_i$  where  $T = \text{GCD}(D_1, D_2, \dots, D_n)$  ...  
[Cited by 14](#) - [Related articles](#) - [Web Search](#) - [BL Direct](#) - [All 6 versions](#)

## Fault-Tolerant Rate-Monotonic Scheduling

S Ghosh, R Melhem, D Mossé, JS Sarma - Real-Time Systems, 1998 - Springer

... Sets of independent, periodic, preemptive tasks are considered. ... with intervals being delimited by task periods. As an example of a IBRMS schedule, consider two ...

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### The cyclic executive model and Ada

TP Baker, A Shaw - Real-Time Systems, 1989 - Springer

... Thus, if it comes to a conflict between Aria and deterministic scheduling, Ada may lose. An Ada task is not inherently periodic; it executes indefinitely ...

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### [PS] ► OPTIMAL PRIORITY ASSIGNMENT AND FEASIBILITY OF STATIC PRIORITY TASKS WITH ARBITRARY START TIMES

NC Audsley - Real-Time Systems, 1991 - cs.york.ac.uk

... this requires the construction of a schedule for the ... The feasibility tests for static priority periodic task systems cited ... show how to decide if a task set of ...

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### Proportionate progress: A notion of fairness in resource allocation

SK Baruah, NK Cohen, CG Plaxton, DA Varvel - Algorithmica, 1996 - Springer

... the periodic scheduling problem by imposing an even stronger fairness constraint.

Our approach is based on maintaining proportionate progress: each task is ...

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### Analysis of hierarchical fixed-priority scheduling - [►cmu.edu](#) [\[PS\]](#)

S Saewong, R Rajkumar, JP Lehoczky, MH Klein - Proc. of Euromicro Conference on Real-Time Systems, 2002 - doi.ieeecomputersociety.org

... A1) Tasks with hard deadlines are periodic and independent ... reserve is associated with one real-time task. 4 ... analyze the schedulability of HDM scheduling, we con ...

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### A Fixed-Priority-Driven Open Environment for Real-Time Applications - [►atl.ga.us](#) [\[PDF\]](#)

TW Kuo, CH Li - Proc. IEEE 20th Real-Time Systems Symp, 1999 - doi.ieeeecs.org

... divisor GCD or a divisor of the GCD of all ... that the CPU requirements of each periodic task in A ... which adopts the rate monotonic RM scheduling algorithm and a ...

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### [PDF] ► Resource Scheduling in Enhanced Pay-Per-View Continuous Media Databases

MN Garofalakis, B Özden, A Silberschatz - PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON VERY LARGE ..., 1997 - acm.org

... in the array can be seen as a collection of periodic real-time ... An exam- ple of such a task is shown in Figure 3(b ... play a cru- cial role in our scheduling problem ...

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### On periodic resource scheduling for continuous-media databases - [►berkeley.edu](#) [\[PDF\]](#)

MN Garofalakis, B Özden, A Silberschatz - The VLDB Journal The International Journal on Very Large ..., 1998 - Springer

... The periodicity of clip retrievals in EPPV servers generates a host of difficult periodic task-scheduling problems that fall within the realm of hard real-time ...

[Cited by 13](#) - [Related articles](#) - [Web Search](#) - [All 13 versions](#)

### Hierarchical Fixed Priority Pre-Emptive Scheduling - [►york.ac.uk](#) [\[PDF\]](#)

RI Davis, A Burns - Real-Time Systems Symposium, 2005. RTSS 2005. 26th IEEE ..., 2005 - ieeexplore.ieee.org

... with the conclusion that the simple Periodic Server dominates ... within each server, uses task priorities to ... fixed priority pre-emptive scheduling, building upon ...

[Cited by 42](#) - [Related articles](#) - [Web Search](#) - [All 8 versions](#)

On fixed priority scheduling, offsets and co-prime task periods

NC Audsley, A Burns - Information Processing Letters, 1998 - Elsevier

... One problem with fixed priority scheduling is that infeasible task ... offset, or time of first release of the task. ... are also made: all tasks are periodic; tasks do ...

Cited by 13 - Related articles - Web Search - All 4 versions

Improvement in feasibility testing for real-time tasks

I Ripoll, A Crespo, AK Mok - Real-Time Systems, 1996 - Springer

... Leung &amp; Merrill (Leung and Merrill, 1980) proved that the schedule produced by any preemptive scheduling policy over a periodic task set is cyclic. ...

Cited by 64 - Related articles - Web Search - BL Direct - All 2 versions

[PDF] ► Best case response time analysis for improved schedulability analysis of distributed real-time tasks

T Kim, J Lee, H Shin, N Chang - Proceedings of ICDCS workshops on Distributed Real-Time ..., 2000 - venus2.cheju.ac.kr

... of its preceding task can be modeled as a periodic task with activation ... The task scheduling algorithm must guarantee that the WCRT (worst case response time ...

Cited by 13 - Related articles - View as HTML - Web Search - All 6 versions

Efficient scheduling of soft real-time applications on multiprocessors - ►unc.edu [PDF]

A Srinivasan - Journal of Embedded Computing, 2005 - IOS Press

... Periodic task systems can be optimally scheduled on multiprocessors using Pfair scheduling algorithms [1–3]. Under Pfair scheduling, each task must execute ...

Cited by 34 - Related articles - Web Search - All 10 versions

Visual Assessment of a Real-Time System Design: A Case Study on a CNC Controller - ►univ-lehavre.fr [PDF]

N Kim, M Ryu, S Hongt, M Saksena, CH Choi, H Shin - ieeexplore.ieee.org

... and ending in a set of schedulable periodic tasks. ... and communication primitives, choosing task periods and deadlines, selecting a scheduling strategy, etc. ...

Cited by 84 - Related articles - Web Search - All 8 versions

Applicability of simulated annealing methods to real-time scheduling and jitter control - ►univ-lehavre.fr [PDF]

M DiNatale, JA Stankovic - IEEE Real-Time Systems Symposium, 1995 - doi.ieeecs.org

... Now, if we divide the tasks into sets of periodic instances, we ...  $s_i, \dots, 1$  where  $T_i$  is the activation period for task  $p_i$  and  $\gcd(T)$  is the scheduling period. ...

Cited by 35 - Related articles - Web Search - All 9 versions

Scheduling of Offset Free Systems

J Goossens - Real-Time Systems, 2003 - Springer

... Keywords: hard real-time scheduling, periodic task set, synchronous systems, asynchronous systems, rate monotonic, deadline monotonic, deadline driven ...

Cited by 12 - Related articles - Web Search - BL Direct - All 7 versions

Minimizing service and operation costs of periodic scheduling

A Bar-Noy, R Bhatia, JS Naor, B Schieber - Proceedings of the ninth annual ACM-SIAM symposium on ..., 1998 - portal.acm.org

... these sequences is not a simple and practical task. ... proof we consider the following Periodic Maintenance Scheduling ...  $v^*$  determines a feasible schedule for the ...

Cited by 113 - Related articles - Web Search - BL Direct - All 14 versions

Feasibility Analysis of Real-Time Periodic Tasks with Offsets

R Pellizzoni, G Lipari - Real-Time Systems, 2005 - Springer

... In all the figures showing a schedule, we represent the execution of each task on a ... for the problem of feasibility analysis of periodic task sets on ...

[Cited by 10](#) - [Related articles](#) - [Web Search](#) - [All 3 versions](#)

### Scheduling resources for continuous media databases

MN Garofalakis, B Ozden, A Silberschatz - US Patent 5,845,279, 1998 - [freepatentsonline.com](#)

... 2, ..., C N >. Next, for each periodic task in order ... Generalized Chinese Remainder Theorem, the scheduling method needs ... ensure that each subtask of task C i ...

[Cited by 10](#) - [Related articles](#) - [Web Search](#) - [All 3 versions](#)

### [PS] ► Feasibility Problems for Recurring Tasks on One Processor

SK Baruah, RR Howell, LE Rosier - Theoretical Computer Science, 1993 - [cis.ksu.edu](#)

... Scheduling theory as it applies to hard-real-time environments has lately become a ... For example, in a periodic task system LL73, LM80, LM81, LW82, Mok83, BHR90 ...

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### Putting fixed priority scheduling theory into engineering practice for safety critical applications

NC Audsley, IJ Bate, A Burns - Real-Time Technology and Applications Symposium, 1996. ..., 1996 - [ieeexplore.ieee.org](#)

... Tasks The scheduling policy will be dependent on the deadline of the sporadic task since the arrival of a sporadic cannot be determined, unlike a periodic, and ...

[Cited by 7](#) - [Related articles](#) - [Web Search](#) - [All 7 versions](#)

### Evaluation of the probability of dynamic failure and processor utilization for real-time systems -

► [univ-lehavre.fr \(pdf\)](#)

MH Woodbury, KG Shin - Real-Time Systems Symposium, 1988., Proceedings., 1988 - [ieeexplore.ieee.org](#)

... By definition, periodic tasks triggered at time  $t_u$  are also ... it is necessary to analyze the task at the ... With this detail, accounting for scheduling and resource ...

[Cited by 7](#) - [Related articles](#) - [Web Search](#) - [All 2 versions](#)

### Task behavior monitoring for adaptive real-time communication

SK Oh, GH Macewen - Real-Time Systems, 1996 - Springer

... Figure 2. Critical (periodic) message characteristics. run-time critical task scheduler ensures critical tasks to have no timing failures; the schedulability ...

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Key authors: [S Baruah](#) - [M Dertouzos](#) - [C Plaxton](#) - [A Mok](#) - [L Rosier](#)

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